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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte RODNEY CARLTON BURNETT, TIMOTHY SIMON BARTLEY, and MICHAEL POWELL

Appeal 2008-0045
Application 09/843,069
Technology Center 2100

Decided: May 5, 2008

Before HOWARD B. BLANKENSHIP, ST. JOHN COURTENAY III, and CAROLYN D. THOMAS, *Administrative Patent Judges*.

COURTENAY, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1-21. We have jurisdiction under 35 U.S.C. § 6(b). We REVERSE. We also enter a new ground of rejection against claims 12-19 under the provisions of 37 C.F.R. § 41.50(b).

THE INVENTION

The disclosed invention relates generally to enhancing the security protections on accesses to devices on computer operating systems. More particularly, Appellants' invention is directed to a technique in which a defined authorization policy external to the native operating system restricts access to system devices regardless of the method of access and controls the creation of new access paths to a system device (Spec. 1).

Independent claim 1 is illustrative:

1. A method for controlling access to a computer system device, being accessed through a special device file, with externally stored resources comprising the steps of:

retrieving file attributes for a device file resource used in the system device access attempt;

determining whether the resource that is making the access attempt is a special device file;

searching a mapping database for special device files that represent the system device that is the object of the access attempt and generating a special device file entry list of all protected device files that represent said system device; and

generating an authorization decision for the access attempt to the system device based on the security policy that governs each device file in the special device file entry list.

THE REFERENCE

The Examiner relies upon the following reference as evidence in support of the rejection:

Kenton	US 5,479,612	Dec. 26, 1995

THE REJECTION

Claims 1-21 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Kenton.

PRINCIPLES OF LAW

In rejecting claims under 35 U.S.C. § 102, "[a] single prior art reference that discloses, either expressly or inherently, each limitation of a claim invalidates that claim by anticipation." *Perricone v. Medicis Pharm. Corp.,* 432 F.3d 1368, 1375-76 (Fed. Cir. 2005) (citation omitted).

ISSUE(S)

We have determined that the following issue is dispositive in this appeal:

Whether Appellants have shown that the Examiner erred in finding that Kenton discloses "special device files" as recited in each of independent claims 1, 11, 12, and 20.

ANALYSIS

Independent claims 1, 11, 12, and 20

After considering the evidence before us, and the respective arguments on both sides, we find the Kenton reference falls short of anticipating Appellants' claimed invention. Appellants argue, *inter alia*, that each independent claim distinguishes over the Kenton reference by requiring device files that are a specialized file type known as a "special device file." (App. Br. 6). We agree with Appellants that the claimed "special device files" are not fairly disclosed by the Kenton reference.

Claim Construction

"[D]uring examination proceedings, claims are given their broadest reasonable interpretation consistent with the specification." *In re Hyatt*, 211 F.3d 1367, 1372 (Fed. Cir. 2000). "[T]he words of a claim 'are generally given their ordinary and customary meaning.'" *Phillips v. AWH Corp.,* 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (internal citations omitted). "[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Phillips*, 415 F.3d at 1313.

Here, the Examiner has broadly read the claimed "special device files" on Kenton's device drivers that are described as "software drivers" by Kenton at column 3, lines 25-30 (*See* Ans. 3, ¶7, i.e., "Thus, a device driver is a special device file and will be referred to as such for the remainder of

this office action."). However, we find that a "special device file," as disclosed and claimed by Appellants, is a well-established term of art that is not the same as a device driver.

When we look to Appellants' Specification for *context*, we conclude that Appellants' use of the term "special device file" is fully consistent with the ordinary and customary meaning attributed to that term by those of ordinary skill in the art. In particular, we find Appellants' disclosure fully comports with the well-established use of *special device files* in Unix environments that are used to access devices (e.g., "character special files" that are used for I/O communication with *devices* that input or output a character stream, and "block special files" where I/O communication with the *device*, usually a disk drive, occurs using blocks of data that may be individually addressed).[1] See e.g., Appellants' Specification, as follows:

> The file is the fundamental object in a computing system for representing system resources. This representation holds true for *attached hardware devices and virtual "pseudo" devices that are represented and accessed through a specialized file type known as a "special device file"*. The device file acts as the

[1] *See* e.g., Stevens, Richard W., "Unix Network Programming", Prentice Hall, p. 30, 1990 ("A *character special file* and a *block special file* are I/O devices that appear as regular files in the Unix filesystem."). *See also* "Tanenbaum, Andrew S., "Modern Operating Systems," Prentice Hall, p. 290, 1992 ("Like all computers, those running UNIX have I/O devices such as terminals, disks, printers, and networks connected to them. Some way is needed to allow programs to access these devices. Although various solutions are possible, the UNIX one is to integrate them into the file system as what are called **special files**. For example, the printer might be */dev/lp*, terminal 1 might be */dev/tty1*, and the network might be */dev/net*.").

> portal to the device and its underlying functionality. *This type of file contains no data, but has as part of its attributes, information describing the device. This device information is a device specification, which contains a major and minor number.* These values act as *indexes or pointers* into internal data structures within the operating system. These data structures contain the specific device implementation methods [i.e., corresponding to the device driver methods] and device properties. Since the special device file is just a redirector to the system device, there can be multiple device files on a system for a given device [emphasis added].

(Spec. 1, ll. 14-24).

Appellants' Specification further discloses use of the device specification, i.e., the major and minor numbers (i.e., pointers) that are extracted from the special device file when a device access occurs, as follows:

> The method of the invention assumes there is a security manager and mechanism present for defining, attaching, and evaluating external authorization policy to file resources based on the file's path name. An example file name would be: /dev/floopyO. In this invention, when security policy is attached to a file, a device protection manager is given the protected file's name. It then retrieves the file's attributes to determine if the file is a *special device file*. This retrieval could occur through one of several methods including a stat() call or an internal OS service such as vn-getattr(). If the file is a *special device file*, then the device manager records the device specification (*major and minor number*) in a device database. This processing occurs for all files, which have attached policy. When a device access occurs, the device specification is extracted from the *special device file* used in the access. The

> access may be an attempt to open the device for reading or writing, or perhaps an operation to change ownership or permissions on the *special device file* [emphasis added].

(Spec. 5, ll. 3-15).

Because the "major numbers" disclosed by Appellants are used to point to a device driver and the "minor numbers" are used to identify particular devices that the device driver program controls, we conclude that a person having ordinary skill in the art would not have reasonably considered a *special device file* (that provides a pointer to a device driver linked with the kernel) to be the same as the device driver itself. We note that "absence from the reference of any claimed element negates anticipation." *Kloster Speedsteel AB v. Crucible, Inc.,* 793 F.2d 1565, 1571 (Fed. Cir. 1986).

Because we conclude that Appellants have met their burden of showing that the Examiner has failed to establish a prima facie case of anticipation, we reverse the Examiner's rejection of independent claims 1, 11, 12, and 20 as being anticipated by Kenton. Because we have reversed the Examiner's rejection of each independent claim on appeal, we also reverse the Examiner's rejection of dependent claims 2-10, 13-19, and 21 as being anticipated by Kenton.

CONCLUSION OF LAW

Based on the findings of facts and analysis above, we conclude Appellants have met their burden of showing that the Examiner erred in rejecting claims 1-21 under 35 U.S.C. § 102(b) for anticipation.

NEW GROUND OF REJECTION

Using our authority under 37 C.F.R. § 41.50(b), we reject claims 12-19 under 35 U.S.C. § 101.

Claims 12-19

Claims 12-19 are rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

Regarding independent claim 12, we note that a computer-readable medium having program code is directed to statutory subject matter so long as the language of the claim is not supported in the Specification with non-statutory embodiments (i.e., signals, transmission mediums and the like). *See In re Nuijten*, 500 F.3d 1346, 1357 (Fed. Cir. 2007) (A claim directed to computer instructions embodied in a signal is not statutory under 35 U.S.C. § 101).

In the present case, Appellants' Specification discloses that the computer readable medium (that includes signal bearing media) is intended to broadly encompass "transmission-type of media such as digital and analog communication links." (Spec. 16, ll. 7-8). Because Appellants'

claims broadly read on signals and other non tangible transmission mediums, we conclude that independent claim 12 and claims 13-19 that depend therefrom are directed to non-statutory subject matter.

DECISION

The decision of the Examiner rejecting claims 1-21 is reversed.

This decision contains a new ground of rejection pursuant to 37 C.F.R. § 41.50(b) (2007). 37 C.F.R.§ 41.50(b) provides "[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review." 37 C.F.R § 41.50(b) also provides that the Appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:

> (1) *Reopen prosecution*. Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the proceeding will be remanded to the examiner. . . .
>
> (2) *Request rehearing*. Request that the proceeding be reheard under § 41.52 by the Board upon the same record. . . .

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

REVERSED
37 C.F.R. § 41.50(b)

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